Memorandum

Subject: IRS Ruling on Tax Status of Liquefied Natural Gas (LNG)

To: Mary Nichols, Assistant Administrator, OAR

From: Rob Wolcott, Deputy Assistant Administrator, OPPE

This memo responds to your request for OPPE analysis of the impact of the IRS tax ruling changing the tax status of LNG motor fuels. We have attached a contractor report that analyzes the implications of the tax ruling on the potential of LNG to displace diesel fuel in the line-haul and urban truck markets. Their analysis indicates that the unequal tax treatment of LNG has resulted in many companies halting their plans to convert to LNG. This will curtail a promising market based initiative to reduce NOx and particulate emissions from diesel engines.

Background

The National Energy Policy Act of 1992 established as one of its goals that the use of non-petroleum energy sources for transportation be encouraged. One promising alternative is the use of natural gas, either as Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG) for motor fuels. These are chemically the same compound (methane), differing only in their method of storage. CNG is pressurized while LNG is super cooled to allow greater quantities to be stored. CNG is practical for use in light-duty vehicles while LNG provides a potential fuel for heavy-duty long distance trucks that would result in LNG displacing the use of diesel fuel.

The Omnibus Reconciliation Act of 1993 established a tax of 48.54 cents per thousand standard cubic feet on Compressed Natural Gas (CNG) for road vehicles. Based on energy content this is equivalent to 6.6 cents per gallon diesel fuel equivalent. While congress did not establish any tax rate for LNG, an energy equivalent rate would be equal to 3.82 cents per gallon of LNG. Regulations issued by the Internal Revenue Service on August 7, 1995, defined LNG as a “special motor fuel” subject to a tax rate of 18.4 cents per LNG gallon. This is the same tax rate applied to gasoline, but somewhat less than the 24.4 cents per gallon tax on diesel fuel.

Impact on LNG Market

One of the impacts of the IRS tax ruling on LNG is that line-haul trucking companies who were beginning or considering converting their fleets to LNG use have stopped doing so. The only markets that are still considering LNG use are transit and non-road equipment, i.e., both markets that are exempt from the highway use tax.

Analyses of the economics of LNG conversion show that the tax ruling has effectively made conversion a bad economic choice for both line-haul trucking companies and urban trucks (e.g., sanitation fleets). This has essentially eliminated the potential for LNG to compete as an alternative fuel in these markets.

Revenue Implications

Independent analyses done for EPA show that making LNG tax rates equivalent to CNG tax rates will have insignificant consequences on total Federal tax revenue. These estimates indicate that annual tax revenue losses will be $5.9 million in the year 2000, $20.7 million in the year 2005, and $39.9 million in the year 2010. The increasing trend occurs as LNG increases its penetration of the line-haul and urban truck markets.

Impact on Emissions of Criteria Pollutants

Diesel fuel is a major source of criteria pollutants defined in the Clean Air Act (CAA). Specifically, it is a major contributor of NOx and particulate emissions.[1] Diesel heavy duty trucks contribute over 25% of the NOx emissions of all highway vehicles and about 8% from all sources. Diesel fuel is a significant contributor to air quality problems in many non-attainment areas. The use of LNG to displace diesel is a promising solution for improving air quality; one that is achievable without regulatory intervention.

Concluding Remarks

As our contractor’s analysis has shown, the potential for LNG to penetrate the motor fuel market has been curtailed. The IRS tax ruling is in direct conflict with policy goals of National Energy Policy Act and with the emission reduction goals of the Clean Air Act.

Please let me know if this answers your questions concerning the impacts of the IRS tax ruling on LNG. I would be pleased to discuss this with you in further detail or to have additional analyses conducted if needed.

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[1]Diesel particulate emissions tend to be high in particles less than 2.5 microns in size, which recent research is indicating may cause severe impacts on human health.